

REMARKS

Claims 1-6, 8-12, 14-21, 24-27, and 30-39 were pending in the application. Claims 1-6, 8-12, 14-21 and 30-33 were withdrawn and are canceled. Claims 24-27 and 34-39 stand rejected. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 102

Claims 24, 25 and 27 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Wykes et al. (U.S. Pat. No. 4,562,546). This rejection is respectfully traversed.

Claim 24 is amended to recite "[a] method of damping vibrations of a wing of an aircraft, the aircraft including a control system, a movable structure operatively connected to the wing, and an actuator operatively coupled to the structure to move the structure in response to a command signal generated by the control system, the method comprising: mounting a vibration canceling circuit to the actuator; using a vibration sensor operatively connected to the canceling circuit to sense a vibration of the wing and generate a signal representative of the vibration; superimposing the vibration signal on the command signal to generate a resultant driver signal, the superimposing performed by the canceling circuit; and operating the actuator with the resultant driver signal to cycle the structure to reduce the vibration of the wing."

Wykes et al. disclose a computer 50 to which signals from sensors 30, 32, 34 and 36 are transmitted (FIG. 2; col. 3, lines 53-54). The computer 50 transmits signals representative of wing structural motion to actuators 52 and 54 (FIG. 2; col. 4, lines 1-4).

Wykes et al. also describe a computer 70 that combines flutter control signals with attitude control signals (FIG. 3; col. 4, lines 50-58). The computer 70 generates both the flutter control signals and the attitude control signals (col. 4, lines 42-58). Wykes et al. do not describe where the computers (50, 70) may be installed in the aircraft 10. Specifically, the computers (50, 70) are not described as being mounted to the control actuators (52, 54).

In contrast, claim 24 recites "...mounting a vibration canceling circuit to the actuator;... superimposing the vibration signal on the command signal to generate a resultant driver signal, the superimposing performed by the canceling circuit;...". The recitations of claim 24 as amended are not taught by Wykes et al. Accordingly, Applicants submit that claim 24 and claims 25-27 dependent thereon should be allowed.

Additionally, with reference to claim 27, Wykes et al. do not teach filtering a vibration signal from a position signal representative of a position of an actuator, or inputting a filtered position signal to a control system of the aircraft 10. Applicants submit that claim 27 should be allowed.

REJECTION UNDER 35 U.S.C. § 103

Claims 26 and 34-39 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wykes et al. (U.S. Pat. No. 4,562,546) in view of Allaei (U.S. Pat. No. 6,394,242). This rejection is respectfully traversed.

As to claim 26 (dependent on claim 24), the claim is amended for consistency with amended claim 24. As previously discussed with reference to amended claim 24,

Wykes et al. do not teach or suggest mounting a vibration canceling circuit to the actuator. Accordingly, Applicants submit that dependent claim 26 should be allowed.

With reference to independent claim 34, the claim is amended to recite “[a] method of damping vibrations of a member of a mobile platform including a control system, a movable structure operatively connected to the member, and an actuator operatively coupled to the structure to move the structure in response to a command signal from the control system, the method comprising: receiving the command signal from the control system; generating a signal representative of vibration of the member, the generating performed using a vibration sensor operatively connected with the member; combining the vibration signal with the received command signal to generate a resultant driver signal configured to reduce the vibration of the member while driving the actuator, the receiving and combining performed using a vibration canceling circuit; and inputting the resultant driver signal to the actuator to move the structure.”

It is apparent that the computers (50, 70) of Wykes et al. do not receive control signals to the actuators (52, 54), but rather are used to generate such signals. Further, the control circuits (1008, 1016) of Allaei are not disclosed as receiving signals other than sensor signals from a signal conditioner 1006 (FIG. 10). Neither Wykes et al. nor Allaei, alone or together, teach or suggest “...receiving the command signal from the control system; generating a signal representative of vibration of the member...; combining the vibration signal with the received command signal to generate a resultant driver signal ..., the receiving and combining performed using a vibration canceling circuit; and inputting the resultant driver signal to the actuator to move the structure.”

Accordingly, Applicants submit that claim 34 and claims 35-38 dependent thereon should be allowed.

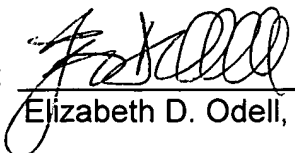
As to claim 35, the claim is amended to recite "...filtering the vibration signal from a position signal representative of a position of the actuator; and sending the filtered position signal to the control system." Neither Wykes at al. nor Allaei, alone or together, teach or suggest the recitations of amended claim 35.

Independent claim 39 is amended to recite a method performed by a vibration canceling circuit operatively connected between the control system and the actuator. Neither Wykes at al. nor Allaei, alone or together, teach or suggest the recitations of amended claim 39. Applicants submit that amended claim 39 is in condition for allowance.

It is believed that a full and complete response has been made to the outstanding Office Action. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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